IN THE CLAIMS

Please amend the claims as follows:

1 (Currently Amended): A method of forming a metal-containing film on a substrate, the method comprising:

providing a plurality of substrates on respective surfaces of a tier substrate holder ~~substrate~~ in a process chamber of a batch type processing system;

heating the ~~substrate~~ substrates to a predetermined temperature where film deposition rate is independent of temperature;

flowing a pulse of a metal-containing precursor in the process chamber;

flowing a pulse of a reactant gas in the process chamber; and

repeating the flowing processes until a metal-containing film with desired film properties is formed on the ~~substrate~~ substrates.

2 (Original): The method according to claim 1, wherein the repeating comprises forming a metal-oxide film.

3 (Original): The method according to claim 1, wherein the repeating comprises forming at least one of a HfO_2 film, a ZrO_2 film, and a film containing a mixture of HfO_2 and ZrO_2.

4 (Original): The method according to claim 1, further comprising flowing a purge gas in the process chamber.

5 (Original): The method according to claim 4, wherein the flowing a purge gas comprises flowing a flow rate between about 100sccm and about 10,000sccm.

6 (Original): The method according to claim 1, further comprising flowing a pulse of a purge gas in the process chamber when the metal-containing precursor and the reactant gas are not flowing.

7 (Original): The method according to claim 6, wherein the flowing a pulse of a purge gas comprises flowing a pulse duration between about 1sec to about 500sec.

8 (Original): The method according to claim 1, wherein the flowing a pulse of a metal-containing precursor comprises flowing a metal-containing precursor and a carrier gas.

9 (Original): The method according to claim 8, wherein the flowing a carrier gas comprises a flow rate between about 100sccm and about 10,000sccm.

10 (Original): The method according to claim 1, wherein the flowing a pulse of a reactant gas comprises flowing a reactant gas and a carrier gas.

11 (Original): The method according to claim 1, wherein the flowing a pulse of a reactant gas comprises flowing at least one of an oxidizing gas, a reducing gas, and an inert gas.

12 (Original): The method according to claim 11, wherein the flowing a pulse of an oxidizing gas comprises flowing an oxygen-containing gas.

13 (Original): The method according to claim 12, wherein the flowing a pulse of an oxygen-containing gas comprises flowing at least one of O_2, O_3, H_2O_2, H_2O, NO, N_2O, and NO_2.

14 (Withdrawn): The method according to claim 11, wherein the flowing a pulse of a reducing gas comprises flowing at least one of a hydrogen-containing gas, a silicon-containing gas, a boron-containing gas, and a nitrogen-containing gas.

15 (Withdrawn): The method according to claim 14, wherein the flowing a pulse of a hydrogen-containing gas comprises flowing H_2.

16 (Withdrawn): The method according to claim 14, wherein the flowing a pulse of a silicon-containing gas comprises flowing at least one of SiH_4, Si_2H_6, Si_2Cl_6, and $SiCl_2H_2$.

17 (Withdrawn): The method according to claim 14, wherein the flowing a pulse of a boron-containing gas comprises flowing a gas with the formula B_xH_{3x}.

18 (Withdrawn): The method according to claim 14, wherein the flowing a pulse of a the boron-containing gas comprises flowing at least one of BH_3, B_2H_6, and B_3H_9.

19 (Withdrawn): The method according to claim 14, wherein the flowing a pulse of a nitrogen-containing gas comprises flowing NH_3.

20 (Original): The method according to claim 1, wherein the providing comprises providing at least one of a semiconductor substrate, a LCD substrate, and a glass substrate.

21 (Original): The method according to claim 20, wherein the providing comprises providing a Si substrate or a compound semiconductor substrate.

22 (Original): The method according to claim 1, wherein the providing comprises providing a substrate containing an interfacial film selected from an oxide film, a nitride film, an oxynitride film, or mixtures thereof.

23 (Original): The method according to claim 1, wherein the providing comprises providing a batch of about 100 substrates or less.

24 (Original): The method according to claim 1, wherein the providing comprises providing a substrate with a substrate diameter greater than about 195 mm.

25 (Original): The method according to claim 1, wherein the flowing a pulse of a metal-containing precursor comprises flowing a pulse duration between about 1sec and about 500sec.

26 (Original): The method according to claim 1, wherein the flowing a pulse of a reactant gas comprises flowing a pulse duration between about 1sec and about 500sec.

27 (Original): The method according to claim 1, wherein the heating comprises heating the substrate to between about 100°C and about 600°C.

28 (Original): The method according to claim 1, wherein the heating comprises heating the substrate to below about 200°C.

29 (Original): The method according to claim 1, wherein the flowing a pulse of a metal-containing precursor further comprises flowing a metal-containing precursor liquid into a vaporizer at a flow rate between about 0.05ccm and about 1ccm.

30 (Original): The method according to claim 1, wherein the flowing a pulse of a reactant gas comprises flowing a flow rate between about 100sccm and about 2,000sccm.

31 (Original): The method according to claim 1, further comprising providing a process chamber pressure less than about 10Torr.

32 (Original): The method according to claim 1, further comprising providing a process chamber pressure between about 0.05Torr and about 2Torr.

33 (Original): The method according to claim 1, further comprising providing a process chamber pressure of about 0.3Torr.

34 (Original): The method according to claim 1, wherein the repeating comprises forming a metal-containing film with a film thickness less than about 1000A.

35 (Original): The method according to claim 1, wherein the repeating comprises forming a metal-containing film with a film thickness less than about 200A.

36 (Original): The method according to claim 1, wherein the repeating comprises forming a metal-containing film with a film thickness less than about 50A.

37 (Original): The method according to claim 1, further comprising annealing the metal-containing film at a temperature between about 150°C and about 1000°C.

38 (Original): The method according to claim 1, further comprising depositing an electrode film comprising at least one of W, Al, TaN, TaSiN, HfN, HfSiN, TiN, TiSiN, Re, Ru, Si, poly-Si, and SiGe.

39 (Withdrawn): The method according to claim 1, further comprising flowing a pulse of a nitrogen-containing gas in the process chamber.

40 (Withdrawn): The method according to claim 39, wherein the repeating comprises forming a metal-oxynitride film.

41 (Withdrawn): The method according to claim 39, wherein the repeating comprises forming at least one of a $Hf_xO_zN_w$ film, a $Zr_xO_zN_w$ film, and a film containing a mixture of $Hf_xO_zN_w$ and $Zr_xO_zN_w$.

42 (Withdrawn): The method according to claim 39, wherein:

the flowing a pulse of a metal-containing precursor comprises flowing at least one pulse,

the flowing a pulse of a reactant gas comprises flowing at least one pulse, and

the flowing a pulse of a nitrogen-containing gas comprises at least one pulse.

43 (Withdrawn): The method according to claim 1, further comprising flowing a pulse of a silicon-containing gas in the process chamber.

44 (Withdrawn): The method according to claim 43, wherein the repeating comprises forming a metal-silicate film.

45 (Withdrawn): The method according to claim 43, wherein the repeating comprises forming at least one of a $Hf_xSi_yO_z$ film, a $Zr_xSi_yO_z$ film, and a film containing a mixture of $Hf_xSi_yO_z$ and $Zr_xSi_yO_z$.

46 (Withdrawn): The method according to claim 43, wherein:

the flowing a pulse of a metal-containing precursor comprises flowing at least one pulse,

the flowing a pulse of a reactant gas comprises flowing at least one pulse, and

the flowing a pulse of a silicon-containing gas comprises at least one pulse.

47 (Withdrawn): The method according to claim 43, further comprising flowing a pulse of nitrogen-containing gas in the process chamber

48 (Withdrawn): The method according to claim 47, wherein the repeating comprises forming a nitrogen-containing metal-silicate film.

49 (Withdrawn): The method according to claim 47, wherein the repeating comprises forming at least one of a $Hf_xSi_yO_zN_w$ film, a $Zr_xSi_yO_zN_w$ film, and a film containing a mixture of $Hf_xSi_yO_zN_w$ and $Zr_xSi_yO_zN_w$.

50 (Withdrawn): The method according to claim 47, wherein:

the flowing a pulse of a metal-containing precursor comprises flowing at least one pulse,

the flowing a pulse of a reactant gas comprises flowing at least one pulse,

the flowing a pulse of a nitrogen-containing gas comprises at least one pulse, and

the flowing a pulse of a silicon-containing gas comprises at least one pulse.

Claim 51 (Canceled).

52 (Original): The method according to claim 1, wherein the heating comprises heating the substrate under isothermal heating conditions.

53 (Withdrawn): The method according to claim 1, wherein the flowing a pulse of a metal-containing precursor comprises flowing a metal alkoxide.

54 (Withdrawn): The method according to claim 53, wherein the flowing a metal alkoxide comprises flowing at least one of $M(OMe)_4$, $M(OEt)_4$, $M(OPr)_4$, and $M(OBut)_4$.

55 (Withdrawn): The method according to claim 53, wherein the flowing a metal alkoxide comprises flowing at least one of a hafnium alkoxide and a zirconium alkoxide.

56 (Withdrawn): The method according to claim 53, wherein the flowing a metal alkoxide comprises flowing at least one of $Hf(OBut)_4$ and $Zr(OBut)_4$.

57 (Withdrawn): The method according to claim 53, wherein the flowing a metal alkoxide comprises flowing at least one of $M(OR)_2(mmp)_2$ and $M(mmp)_4$.

58 (Original): The method according to claim 1, wherein the flowing a pulse of a metal-containing precursor comprises flowing a metal alkylamide.

59 (Original): The method according to claim 58, wherein the flowing a metal alkylamide comprises flowing at least one of a hafnium alkylamide and a zirconium alkylamide.

60 (Original): The method according to claim 58, wherein the flowing a metal alkylamide comprises at least one of $Hf(NEt_2)_4$, $Hf(NEtMe)_4$, $Zr(NEt_2)_4$, and $Zr(NEtMe)_4$.

61 (Currently Amended): The method according to claim 1, wherein:

~~the providing comprises providing a plurality of substrates in said process chamber, and~~

the repeating comprises forming an HfO_2 film on each of the plurality of substrates, ~~the plurality of substrates~~ each film having a thickness of about 30A to about 50A and a WIW uniformity of about 10% to about 15%.

62 (Currently Amended): The method according to claim 1, wherein:

~~the providing comprises providing a plurality of substrates in said process chamber,~~

~~and~~

the repeating comprises forming an HfO_2 film on each of the plurality of substrates, ~~the plurality of substrates~~ each film having a thickness of about 20A to about 50A and a WIW uniformity of about 20% or less.

63 (Currently Amended): The method according to claim 1, wherein:

~~the providing comprises providing a plurality of substrates in said process chamber,~~

the repeating comprises forming an HfO_2 film on each of the plurality of substrates~~,~~

~~and~~

~~the heating comprises heating within a temperature range at which film deposition rate is independent of temperature~~.

64 (Original): The method according to claim 63, wherein said heating comprises heating within a temperature range of about 160 to 180°C.

65 (Withdrawn): A computer readable medium containing program instructions for execution on a processor, which when executed by the processor, cause a batch substrate processing apparatus to perform the steps in the method recited in claim 1.

Claims 66-77 (Canceled).

78 (New): The method of Claim 1, wherein said flowing steps provide a deposition rate of about 1 angstrom per cycle.